



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,786	01/17/2002	Koichi Uchiyama	KAW 2 0102	1542
7590	07/21/2004		EXAMINER	
Richard J. Minnich, Esq. Fay, Sharpe, Fagan, Minnich & McKee, LLP Seventh Floor 1100 Superior Avenue Cleveland, OH 44114-2518			LORENGO, JERRY A	
			ART UNIT	PAPER NUMBER
			1734	
DATE MAILED: 07/21/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/051,786	UCHIYAMA, KOICHI
	Examiner	Art Unit
	Jerry A Lorendo	1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 March 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3,5,6,15,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3,5 and 16-18 is/are rejected.
- 7) Claim(s) 6 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 - Certified copies of the priority documents have been received in Application No. _____.
 - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

(1)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,660 to Sato et al. in view of U.S. Patent No. 3,981,237 to Rhodes and JP 03-075192 to Tamura.

Regarding applicant claim 1, Sato et al. disclose a stencil sheet comprising:

(1) A sheet (screen) having a large number of minute perforations (a 270 mesh polyester screen) which are filled with a resin that is soluble in a solvent (column 5, line 60 to column 6, line 9).

Although Sato et al. disclose that the stencil sheet may comprise a 270-mesh screen formed of polyester (a synthetic resin), they do not specifically disclose, as per applicant claim 1, that it comprises a film of synthetic resin.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the polyester mesh screen of Sato et al. with a perforated film of synthetic resin motivated by the fact that Rhodes, also drawn to screen printing devices, discloses that

Art Unit: 1734

mesh screens may be replaced with perforated films of synthetic resin in order to produce a device with enhanced resistance to damage (column 1, line 15 to column 3, line 64).

Although the references as combined in section (3), above, disclose a stencil sheet comprising a film having minute perforations filled with a resin which is soluble in a solvent, they do not specifically disclose, as per applicant claim 1, that the perforations in the sheet are trapezoidal in vertical cross section.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the film resulting from the references as combined in section (3), above, with perforations that are trapezoidal in vertical cross section motivated by the fact that Tamura, also drawn to screen printing devices, disclose that the provision of a screen printing mask (a stencil sheet) with trapezoidal perforations allows materials forced therethrough during printing to be disposed on the substrate in stable deposits without adherence to the walls of the perforations (abstract; Figures 1 and 3).

Regarding applicant claim 2, Rhodes discloses the perforated films may comprise synthetic resin (column 1, line 15 to column 3, line 64).

Regarding applicant claims 3 and 15, although Sato et al. is silent as to the specifics, it would have been obvious to one of ordinary skill in the art at the time of invention that the 270 mesh polyester screen disclosed by Sato et al. would have the physical parameters set forth in applicant claim 3 motivated by the fact that generally available technical specifications provide that a 270 mesh polyester screen formed of low elongation monofilament polyester possesses an open area of between 26.6 and 35.2% and have an equivalent circular diameter of between 45 and 54 μm .

Regarding applicant claims 5 and 17, Although Sato et al. do not specifically disclose that the sheet has a thickness in the range of 1.5 to 20 microns, the skilled artisan would have appreciated the fact that the thickness of the sheet, such as the 270 mesh polyester screen disclosed by Sato et al., would be dependent upon the diameter of the polyester filaments used to weave the mesh as well as the degree of post-weave calendaring (which is used to cross-weld the weave) that the polyester mesh undergoes after manufacture. Likewise, the thickness of a stencil formed of a perforated synthetic resin film would be the result of routine experimentation by one

Art Unit: 1734

of ordinary skill in the art taking into consideration the line density of the patterns to be printed using the stencil, the apparatus or methodology utilized to exude ink through the stencil, etc.

(2)

Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (1), above, in further view of U.S. Patent No. 5,819,652 to Utter et al.

The references as combined above disclose a stencil sheet comprising a sheet having a large number of minute perforations (a 270 mesh polyester screen) which are filled with a resin that is soluble in a solvent (column 5, line 60 to column 6, line 9).

Although they do not specifically disclose that the stencil sheet further comprises a porous support laminated on one side of the sheet, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the sheet of resulting from the references as combined with a porous support on one side thereof motivated by the fact that Utter et al., also drawn to screen printing devices, disclose that it is known to provide a stencil mask 2 with a porous support (mesh) 10 on one side thereof (Figures 1 and 2; column 2, lines 41-63).

(3)

Allowable Subject Matter

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The references as combined in section (1) above disclose a stencil sheet formed of a synthetic resin film having large number of minute perforations that are trapezoidal in vertical crossection. Although the reference to Utter et al. disclose that it is known to provide a porous support laminated on one side of the stencil sheet, neither Utter et al. nor any of the prior art of record specifically teach or suggest that the porous support laminated to the stencil sheet is provides on the side of the stencil sheet which bears perforation openings of larger diameter as compared with those of the other side of the sheet.

(4)

Response to Amendments and Arguments

The amendments and arguments filed March 11, 2004 are acknowledged. In response to the amendments to applicant claims 1 and 6 and the cancellation of claims 4 and 16, a new grounds of rejection has been formulated. As such, the Applicant's arguments with have been considered but are moot in view of the new ground(s) of rejection. Nonetheless, the examiner would like to take the opportunity to address some of the outstanding issues of the instant case.

Firstly, as set forth in the above rejections, stencil sheets formed of synthetic resin and having perforations, which are trapezoidal in crossection, are known. Secondly, the examiner is appreciative of the fact that the use of the stencil sheet of the instant invention differs from those of the prior art in that it is the side of the stencil sheet having the smaller diameter openings which is placed against the object to be printed. The prior art considered by the Examiner (see, for example, Figures 1 and 2 of Utter et al. and Figures 1 to 4 of Tamura) places the side of the stencil sheet having the larger diameter openings against the object to be printed. As such, claim 6, which places this orientation limitation of the stencil sheet through the lamination of the porous support, has been indicated as encompassing allowable subject matter.

Although claim 1, as amended, attempts to place this same orientation limitation on the stencil sheet, the examiner respectfully submits that the stencil sheet of claim 1 would be indistinguishable from the references combined in section (1), above, because there is no structure, such as the porous support laminated thereto, to dictate a structural orientation.

(5)

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1734

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

(6)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J.A. Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

J.A. Lorengo Primary Examiner
AU 1734
July 20, 2004